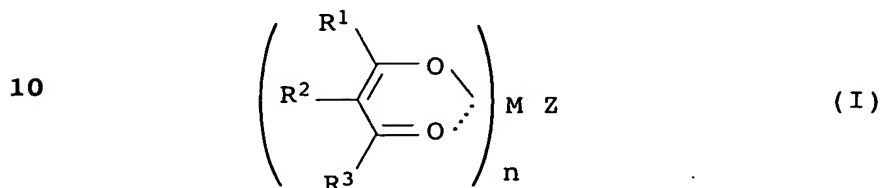


We claim:-

- 5 1. A process for preparing polyoxymethylene by contacting a formaldehyde source with a catalyst of the formula I



15 where

M is TiO, ZrO, HfO, VO, CrO<sub>2</sub>, MoO<sub>2</sub>, WO<sub>2</sub>, MnO<sub>2</sub>, ReO<sub>2</sub>, Fe, Ru, Co, Rh, Ir, Ni, Pd, Pt, Cu, Zn, Cd, Hg, Sn, SnO or PbO;

20 R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are each independently a radical which is selected from H, alkyl, aryl and aralkyl, and the radical may be partly or fully halogenated;

Z is an anion; and

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n is 1 or 2.

2. A process as claimed in claim 1 where

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M is MoO<sub>2</sub> or WO<sub>2</sub>.

3. A process as claimed in any of the preceding claims where

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R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are each independently H, C<sub>1</sub>-C<sub>6</sub>-alkyl which may be partly or fully halogenated, phenyl, benzyl or naphthyl.

4. A process as claimed in claim 3 where R<sup>1</sup> and R<sup>3</sup> are each independently methyl, tert-butyl, trifluoromethyl, pentafluoroethyl, heptafluoropropyl, phenyl or naphthyl.
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5. A process as claimed in claim 4 where R<sup>2</sup> is H or methyl.

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6. A process as claimed in any of the preceding claims where

5        Z    is a halide, sulfonate of the formula  $\text{OSO}_2\text{R}$ , where R is alkyl, partly or fully halogenated alkyl or aryl, complexed borate, complexed phosphate, complexed arsenate or complexed antimonate.

7. A process as claimed in claim 6 where

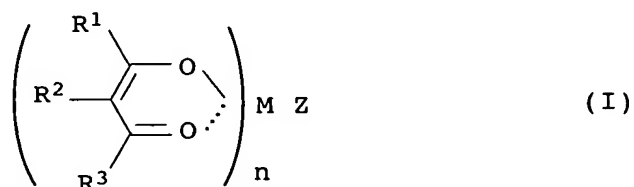
10        Z    is  $\text{OSO}_2\text{CF}_3$  or chloride.

8. A process as claimed in any of the preceding claims where the formaldehyde source is formaldehyde, trioxane or paraformaldehyde.

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9. A catalyst of the formula I,

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where

M    is  $\text{TiO}$ ,  $\text{ZrO}$ ,  $\text{HfO}$ ,  $\text{VO}$ ,  $\text{CrO}_2$ ,  $\text{MoO}_2$ ,  $\text{WO}_2$ ,  $\text{MnO}_2$ ,  $\text{ReO}_2$ ,  $\text{Fe}$ ,  $\text{Ru}$ ,  $\text{Co}$ ,  $\text{Rh}$ ,  $\text{Ir}$ ,  $\text{Ni}$ ,  $\text{Pd}$ ,  $\text{Pt}$ ,  $\text{Cu}$ ,  $\text{Zn}$ ,  $\text{Cd}$ ,  $\text{Hg}$ ,  $\text{Sn}$ ,  $\text{SnO}$  or  $\text{PbO}$ ;

30

$\text{R}^1$ ,  $\text{R}^2$  and  $\text{R}^3$  are independently a radical which is selected from H, alkyl, aryl and aralkyl and the radical may be partly or fully halogenated;

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Z    is an anion; and

n    is 1 or 2.

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